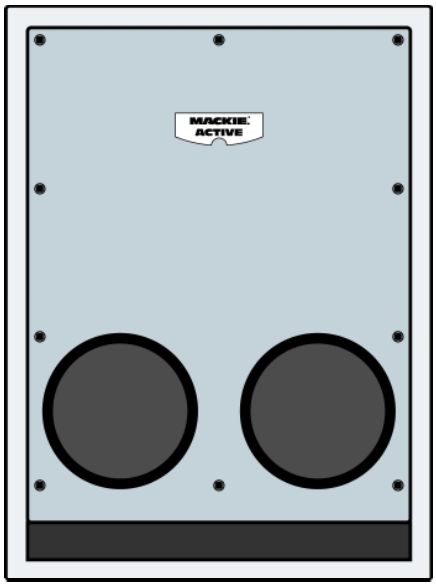
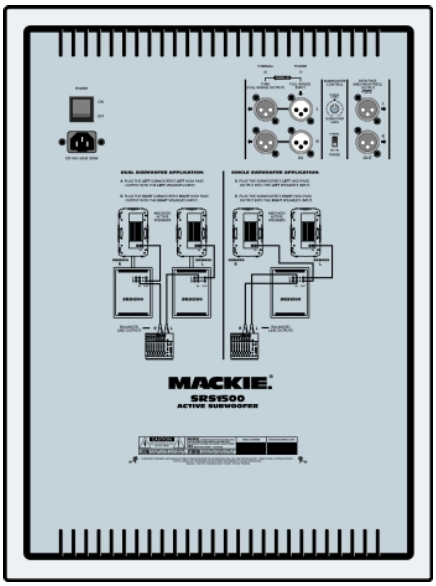
MACKIE®

SRS1500

Active Subwoofer





SERVICE MANUAL

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MACKIE. SRS1500 SERVICE MANUAL

SERVICE ON THIS EQUIPMENT IS TO BE PERFORMED BY
EXPERIENCED REPAIR TECHNICIANS ONLY
CONFIER L'ENTRETIEN AU PERSONNEL QUALIFIE

CAUTION *AVIS*

RISK OF ELECTRIC SHOCK
DO NOT OPEN
RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE THE COVER (OR BACK)
NO USER SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS POLARIZED PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION: POUR EVITER LES RISQUES DE CHOC ELECTRIQUE, NE PAS ENLEVER LE COUVERCLE. AUCUN ENTRETIEN DE PIECES INTERIEURES PAR L'USAGER. CONFIER L'ENTRETIEN AU PERSONNEL QUALIFIE.

AVIS:POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, N'EXPOSEZ PAS CET ARTICLE A LA PLUIE OU A L'HUMIDITE.

POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR, UN PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS LAISSER AUCUNE PARTIE A DECOUVERT.

This apparatus does not exceed the Class A/Class B (whichever is applicable) limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

ATTENTION :Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant las limites applicables aux appareils numériques de class A/de class B (selon le cas) prescrites dans le réglement sur le brouillage radioélectrique édicté par les ministere des communications du Canada.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio energy and, if not installed properly and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure, that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Le symbole éclair avec point de flèche à l'intérieur d'un triangle équilatéral est utilisé pour alerter l'utilisateur de la présence à l'intérieur du coffret de "voltage dangereux" non isolé d'ampleur suffisante pour constituer un risque d'éléctrocution.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Le point d'exclamation à l'intérieur d'un triangle équilatéral est employé pour alerter les utilisateurs de la présence d'instructions importantes pour le fonctionnement et l'entretien (service) dans le livret d'instruction accompagnant l'appareil.

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INTRODUCTION

SERVICE ON THIS EQUIPMENT IS TO BE PERFORMED BY
EXPERIENCED REPAIR TECHNICIANS ONLY
CONFIER L'ENTRETIEN AU PERSONNEL QUALIFIE

This manual contains basic service information. It is essential that you have a copy of the user's manual as this contains the complete operating instructions.

SERVICE TECHNICAL ASSISTANCE

Mackie Designs, Service Technical Assistance, is available 8AM - 5PM PST, Monday through Friday for Authorized Mackie Service Centers, at 1-800-258-6883. Feel free to call with any questions and speak with a carefully-calibrated technician. If one is not available, leave a detailed message and a qualified Mackoid will return your call asap.

DISCLAIMER

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Overview

The SRS1500 is a high output active subwoofer system. It features a high-precision 15" transducer combined with application specific amplifier technology. The system is composed of a single, compact subwoofer cabinet with built-in control and amplifier electronics.

The SRS1500 accepts a stereo line-level signal via female XLR input jacks. Male XLR Thru jacks are provided for daisy-chaining the signal to additional SRS1500 cabinets. The built-in crossover separates the low frequencies from the high frequencies, and routes the high frequencies to the male XLR high-pass output jacks. Connect these to the inputs of full-range active speakers such as the Mackie Designs SRM450s, or to an amplifier powering a pair of passive speakers such as the Mackie Designs M•1400i and C300s. A Phase switch gives you the option of reversing the phase to the full-range speakers by 180º. A Subwoofer Level control allows you to adjust the balance between the subwoofer and the full-range speakers.

The built-in amplifier produces up to 600 watts of power. The amplifier module sits on a large heatsink that eliminates the need for fans, dramatically extending life expectancy, and eliminating maintenance cycles. A tremendous benefit of having the amplifier located within the subwoofer cabinet is the speed with which power is delivered to the woofer.

The cabinet is constructed with 18mm thick multi-layered birch plywood. Carrying handles are integrated into each side for easy loading and transport.

POWER Switch

Use this switch to turn the SRS1500 on and off. Make sure the signal source's level control is turned down before you turn it on.

AC Receptacle

This is where you connect the AC linecord to provide AC power to the SRS1500's built-in power amplifiers. Plug the linecord into an AC socket properly configured for your particular model.

THERMAL Indicator

The SRS1500 has a thermal protection circuit that monitors the internal temperature of the amplifier and heatsink. If the temperature should exceed a safe operating level, the signal is muted and the THERMAL indicator lights. When the temperature cools to a safe level once again, the thermal protection circuit deactivates and normal operation continues.

Note: Activation of the thermal protection circuit is an indication that you must take steps to avoid continued thermal problems.

POWER Indicator

When the POWER switch is turned on and the linecord is connected to an active AC power supply, this indicator lights green. The blue LED on the front of the cabinet works in the same way.

FULL RANGE INPUT

These are female XLR-type connectors that accept a balanced line-level signal from a mixing console or other signal source.They are wired per AES (Audio Engineering Society) standards:

XLR

Hot (+) Pin 2

Cold (–) Pin 3

Shield (Ground)Pin 1

THRU (FULL RANGE OUTPUT)

These are male XLR-type connectors that produce exactly the same signal that is connected to the FULL RANGE INPUT jack. Use it to daisy-chain several SRS1500s together off the same signal source.

HIGH PASS (MID/HIGH FREQ) OUTPUT

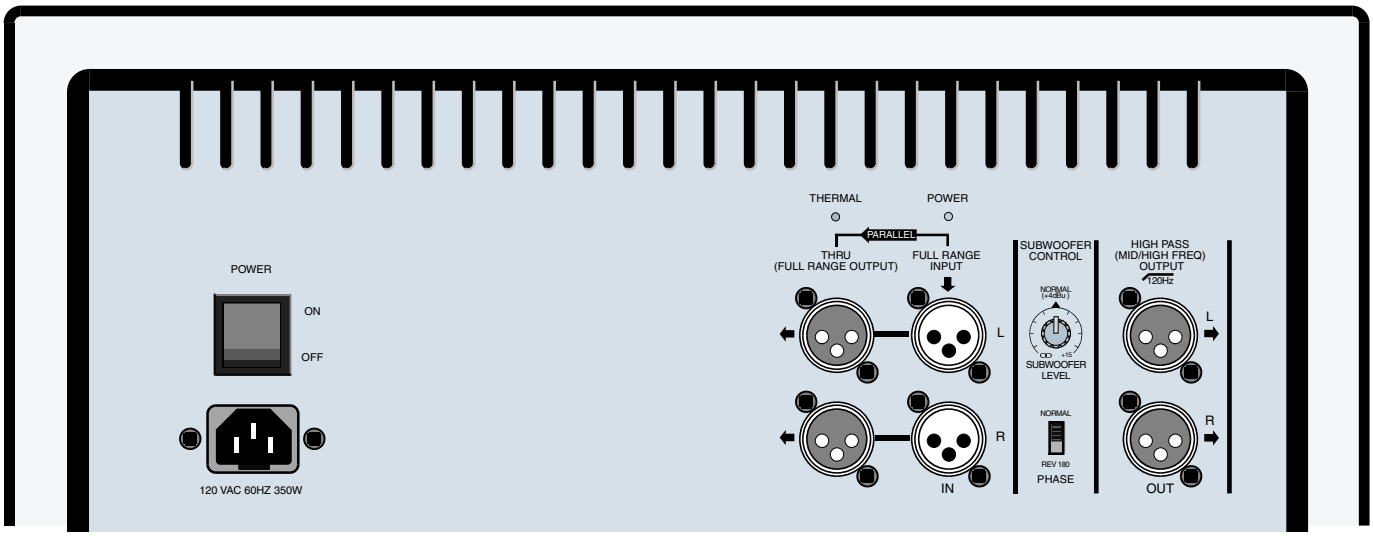
These are male XLR-type connectors that produce the frequencies above 120Hz. Connect these to a pair of full-range active speakers or to an amplifer/passive speaker combination. The SRS1500 reproduces the frequencies below 120Hz.

SUBWOOFER LEVEL Control

This adjusts the subwoofer level. Use this control to balance the volume between the subwoofer and the full-range speakers. The center detent position is +4 dBu gain, which is the normal position. Unity gain is at the 9 o'clock position.

PHASE

This switch reverses the phase of the signal at the HIGH PASS OUTPUT jacks. Depending on the placement of the SRS1500 subwoofer relative to the full-range speakers, you may get a better low-frequency response in the room if you reverse the phase of the signal.



Specifications

General Specifications

Freq. Range	40Hz–120Hz
Freq. Response	45Hz–120Hz (–3 dB)
Maximum SPL @ 1m	123 dB
Peak Output @ 1m	126 dB
Crossover Freq.	120Hz (12 dB/octave)

Input Type

Balanced differential	
Input Impedance	50k ohms

Protection

Input Protection	Level protected
Thermal Protection	Input stage muting, auto-reset

Transducer Specifications

Low-Frequency Transducer

Diameter	15" (381mm)
Voice Coil Diameter	3.0" (75mm)
Power Handling	350 watts rms

Power Amplifier

Low-Frequency Power Amplifier

Burst Capability	600 watts
Rated THD	< 0.05%
Cooling	Passive Heatsink

Line Input Power

US	120V, 60Hz
Europe	230V, 50Hz

Physical Properties

Height	23.25² (590mm)
Width	17.0² (432mm)
Depth	23.5² (597mm)
Weight	100 lbs. (45.4kg)
Enclosure	18mm thick multi-layered baltic birch tree wood

Enclosure Geometry

Rectangular

Mounting Methods

Floor mount only

Safety test

You must perform the following leakage test before returning the unit to your customer. Take every safety precaution to protect yourself while doing this test.

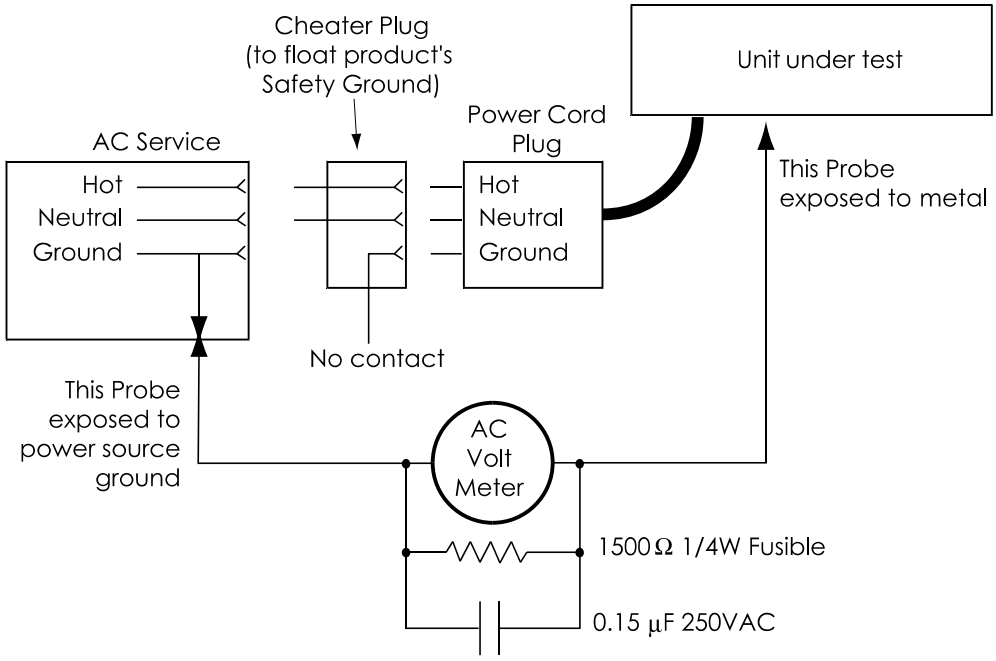
1. Make a small loading RC circuit as shown in the diagram below, and connect the AC volt meter between the AC power source ground and any exposed metal on the unit under test.

2. Connect the unit under test to an AC power source using a ground-lift adaptor, leaving the unit's safety ground floating. Turn the unit on.

3. The meter reading should be less than 750mVAC (note: this is equivalent to 0.5mA of leakage current).

4. Flip the plug over in the receptical so the hot and neutral are swapped. Verify that the reading is still less then 750mVAC.

5. If either reading is greater than 750mVAC, then you must investigate and repair the unit before returning it to your customer.



SRS1500 PARTS LIST

PART#	DESCRIPTION	PAGE
090-104-00	SRS1500 MASTER PARTS	8
080-101-00	AMPLIFIER SUBASSEMBLY	9
055-269-00	PCB ASSY AMP SRS1500	11
055-270-00	PCB ASSY INPUT SRS1500	12
055-271-00	PCB ASSY AC INPUT SRS1500	13

MASTER PARTS LIST
090-104-00 SRS1500 120V MODEL

PART NUMBER	DESCRIPTION	REV	QPA	NOTES
055-313-00	PCB ASSY LED SRS1500	A	1	
092-903-00	LC IEC SJT 1250W 10A/125V	A	1	LINECORD 120VAC
080-101-00	SA AMP	A	1	AMPLIFIER SUBASSEMBLY
490-022-00	WOOFER 15IN SPKR	A	1	
490-045-00	CABINET HOUSING SRS-1500	A	1	
490-051-00	POLE MOUNT CUP SRS1500	A	1	
550-476-00	HANDLE HOUSING SPKR	A	2	
550-529-00	FAB BRKT POLE SRS1500	A	1	
550-530-00	FAB BRKT HANDLE SRS1500	B	4	
551-507-00	CAST HANDLE SPKR	A	2	
700-035-04	TF 6-32X3/8 PHP CLRZC	A	4	SCREWS
700-038-00	MCH 10-32X1-1/4 SS SKTCAP	A	8	SCREWS
700-051-10	MCH 8-32X7/8 PHP BLKZC	A	8	SCREWS
700-130-15	MCH 10-32X1 1/2 BTNSK BLK	A	10	SCREWS
700-131-00	10-32X1.25 FL 82D HEX BLK	A	8	SCREWS
701-022-00	#4X1/4 PHP II TYP B BLK	B	1	SCREWS
701-025-00	WOOD #10 X 3/4 PHP BLK	A	12	WOOD SCREWS
701-030-00	WOOD #6X1/2 RND HD PH BLK	A	12	WOOD SCREWS
705-021-01	NUT PALNUT 7/16OD STLZC	A	2	AHH NUTS!
710-057-00	WASH FLT ID .195 SS BLK	A	10	WASHER
760-115-00	SIDE HANDLE GRIP SRM450	A	2	
760-142-00	PORT SUB WOOFER SRS1500	A	2	
790-002-00	BAG POLY 12 X 18 2MIL	A	1	
790-019-00	P/FOAM 48X28X1/32 P/F SHT	A	0.01	
800-144-00	BOX SRS1500	A	1	
800-162-00	BOX BOTTOM TRAY SRS1500	A	1	
810-100-00	INSERT TOP/BTM SRS1500	A	2	
810-101-00	INSERT CRN RAILS SRS1500	A	4	
820-187-00	OWNERS MANUAL SRS1500	A	1	
840-227-00	LOGO MACKIE LDSKR SERIES	D	1	
840-273-00	LOGO SRS1500 ACTIVE	C	1	

080-101-00 AMPLIFIER SUBASSEMBLY

PART NUMBER	DESCRIPTION	REV	QPA	
040-406-00	DIS 16GA WHT 4.5 IN QDX2	A	2	
040-407-00	DIS 16GA BLK 4.5 IN QDX2	A	2	
040-408-00	CBL ASY 2P 22G 45IN SPOX	B	1	
055-269-00	PCB ASSY AMP SRS1500	A	1	SEE PAGE 10
055-270-00	PCB ASSY INPUT SRS1500	A1	1	SEE PAGE 12
055-271-00	PCB ASSY AC INPUT SRS1500	A	1	SEE PAGE 13
080-155-00	SA XFMR SRS1500 W/FERRITE	A	1	TRANSFORMER SUBASSEMBLY
080-184-00	SA 040-409-00/601-039-00	A	1	
080-185-00	SA 040-404/405/601-040-00	A	1	
410-018-00	SILPAD 4 C SRS1500 4.46"	C	1	
410-019-00	SILPAD 6C SRS1500 6.56"	C	1	
410-020-00	SILPAD DIGI SRS1500 5.02"	A	1	
410-022-00	MICA 1.08x.90x.002 SRS150	A	2	
410-023-00	MICA .90x.70x.002 SRS1500	A	2	
500-055-00	SW PWR RCKR QD SRS1500	A	1	POWER SWITCH
550-249-00	PLATE XFMR .335IDX4.528OD	A	1	
550-477-00	SCR PANEL REAR SRS-1500	A	1	
550-492-00	PNT SUPP AMP SRS1500	A	2	
550-493-00	FAB SUB HTSINK SRS1500	A	1	
550-509-00	FAB SUB HTSK LFT SRS1500	A	1	
550-510-00	FAB SUB HTSK RGT SRS1500	A	1	
550-513-00	GEORGES SPRING CLIP SRS	A	7	
550-569-00	PLATE XFMER SRS1500	A	1	
700-028-00	SEMS 6-32X1/4 PHP BLKZC	B	8	
700-028-03	SEMS 6-32X1/2 PHP BLKZC	A	4	
700-055-00	MCH 4-24X3/8 PHP BLK HILO	A	12	
700-113-01	BOLT CAR 5/16-18 2.5I STL	A	1	TRANSFORMER CARRIAGE BOLT
705-001-00	KEPNUT 6-32	A	19	
705-008-00	NUT LOCK 8-32	A	4	
705-011-00	NUT LOCK 10-32	A	4	
705-018-00	NUT HEX 5/16-18 (GD-5)	A	1	TRANSFORMER MOUNTINIG NUT
706-080-00	MOUNT VIBRATION 1.0 DIA	A	4	
706-084-00	STDF 1/4 HEX 6-32 .187 FF	A	7	
710-017-00	WASH SPLTLCK 5/16 HEAVY	A	1	
710-024-00	WASH FLAT 5/16 HARD (USS)	A	1	
710-054-00	WASH FLT .312 OD	A	7	
710-056-00	WASH SHLD #6 .36 OD NYLON	A	2	
712-061-00	NO4 VINYL COAT WIRE CLAMP	A	1	
720-006-00	TAPE DS 60M .50W VYNL BLK	A	AR	
730-001-00	THERMAL JOINT COMPOUND	A	AR	
730-025-00	LOCTITE 222	A	AR	
730-026-00	ADHESIVE RTV162	A	AR	
740-001-00	TYRAP 3-1/4L	A	2	
740-002-00	TYRAP MOUNT .75 X .75	B	1	
760-081-00	KNOB TRIM W/PNTR	A	1	
780-111-00	WASH RUB (W/TRANSFORMER)	A	2	
780-150-00	SHIELD AMP PCB SRS1500	A	1	
790-001-00	BAG POLY 20 X 30 4MIL	A	1	
800-166-00	BOX SET SA AMP SRS1500		0.25	

AMP PCB ASSEMBLY 055-269-00 REV:A

PART NUMBER	DESCRIPTION	VALUE		REFERENCE DESIGNATORS
110-001-00	RES CF .25W 5% 10 OHM	10	5%	R1 R3 R43 R45 R65 R68
110-018-00	RES CF .25W 5% 51 OHM	51	5%	R26 R38
110-025-00	RES CF .25W 5% 100 OHM	100	5%	R50 R59
110-033-00	RES CF .25W 5% 220 OHM	220	5%	R47 R64
110-039-00	RES CF .25W 5% 390 OHM	390R		R57 R74
110-041-00	RES CF .25W 5% 470 OHM	470	5%	R29 R35
110-049-00	RES CF .25W 5% 1K OHM	1K	5%	R25 R37 R48-49 R54-55 R60-61 R71-72
110-051-00	RES CF .25W 5% 1K2 OHM	1k2		R51 R56 R58
110-057-00	RES CF .25W 5% 2K2 OHM	2K2		R6 R12-15 R19 R27 R39 R46 R66 R73 R76
110-080-00	RES CF .25W 5% 20K OHM	20K	5%	R70 R77
110-083-00	RES CF .25W 5% 27K OHM	27K	5%	R75
120-025-00	RES MO .5W 5% 1 OHM	1R		R17 R24
120-064-00	RES MO .5W 5% 43 OHM	43	5%	R34
120-081-00	RES MO .5W 5% 2K2 OHM	2K2	5%	R30 R33
120-090-00	RES MO .5W 5% 5.1K OHM	5.1K	5%	R16 R18 R20 R23 R28 R40
121-025-00	RES MO 1W 5% 1 OHM	1R		R7-8 R22 R41
121-085-00	RES MO 1W 5% 3K3 OHM	3k3		R44 R67
123-033-00	RES MO 3W 5% 2.2 OHM	2.2	5%	R5 R10-11
125-034-00	RES WW 5W 0.15 OHM	0.15R		R9 R21 R31 R36
125-035-00	RES WW 5W 5% 1k OHM	1k		R32 R42 R52-53 R62-63
125-036-00	RES WW 5W 5% 1K5 OHM	1k5		R4
125-037-00	RES WW 5W 5% 2K2 OHM	2k2		R2
125-038-00	RES WW 5W 5% 470 OHM	470		R69 R78
200-007-02	PLY .01UF 10% 100V TR	0.01		C28-29
200-036-02	PLY/BX .1UF 10% 250V TR	.1uF	10%	C10 C15 C30
200-042-02	PLY/BX .22UF 10%250V TR	0.22	10%	C4 C7 C20 C22-24 C32-38
200-049-00	PLY BOX LW IND 22UF SPL	22UF		C5-6
200-062-00	PLY FILM 6.8UF 10% 100V	6.8UF		C1-2 C14
205-006-02	MICA 30PF 5% 500V T/A	30pF	5%	C31
220-007-00	LYT 100UF 20% 100V RAD	100UF	10%	C17-18
220-011-02	LYT 100UF 20% 25V RAD	100UF	10%	C3 C8 C16 C19 C26-27
220-016-00	LYT 1000UF 20% 25V RAD	1000UF	10%	C12-13
220-027-02	LYT 10UF 20% 50V RAD TR	10UF	10%	C21 C25
220-033-00	LYT 10000UF 20% 80V RAD	10,000uF	20%	C9 C11
NOT USED				C39-40
300-007-00	DIO SW 1SS244-SUB 1SS245	1SS244		D13 D15 D17 D19 D22-23 D25 D28 D30 D35 D37-40
301-019-00	DIO PWR BRDG 25A 400V SIP	25A		D10
301-059-00	FAST DIO 600V/4A MUR460	MUR460		D6-7 D18 D20
301-060-00	FAST DIO 400V/1A MUR140	MUR140		D11 D16
301-061-00	FAST DIO 400V/15A MUR1540	MUR1540		D2-3
301-062-00	DIO BRDG 400V/1A DF04M	DF04M		D9
302-002-00	DIO ZEN 1N5230B 4.7V	1N5230		D29 D31
302-026-00	DIO ZEN 1N4744A 15V 1W	1N4744		D1 D4-5 D8 D27 D33
302-030-00	DIO ZEN 1N4746A 18V 1W	1N4746		D21 D34
304-041-02	LED GRN T-1 TRANS W/TIE	GRN		D12 D14 D24 D26 D32 D36
310-001-02	TRANSISTOR NPN 2N3904	2N3904		Q7 Q12
310-018-00	XSTR NPN TIP122	TIP122		Q4
310-023-02	XSTR NPN 2SC2362K TR	2SC2362K		Q20-23 Q25
310-032-02	TRANSISTOR PNP T&R	2SA1016K		Q18-19 Q28-30
310-035-00	TRANSISTOR PNP	2SA1478		Q24 Q26-27
310-036-00	TRANSISTOR NPN	2SC3788		Q15-17
310-042-00	XSTR NPN MJE15032	MJE15032		Q14
310-043-00	XSTR PNP MJE15033	MJE15033		Q10
310-062-00	XSTR NPN 100V/25A TIP35C	TIP35C		Q8 Q13

PART NUMBER	DESCRIPTION	VALUE	REFERENCE DESIGNATORS
310-063-00	XSTR PNP 100V/25A TIP36C	TIP36C	Q3 Q9
310-065-00	XSTR PNP TIP127	TIP127	Q5
310-066-00	XSTR MOSFET-N MTW32N20E	MTW32N20E	Q1-2
310-067-00	XSTR PNP SWITCH PNP 60V/ .2A	2N3906	Q6 Q11
310-068-00	PC 923 /SHARP, HIGH SPEED PHOTOCOUPLER	PC923	U1-2
400-078-00	HDR 10P .1X2 STR LCK SHRD		J4
400-129-00	FUSE CLIP .25 DIA PC MNT		FC1-4
400-173-00	TERM .25 QKDS PCMT STABLE		J2-3
400-373-00	HDR 6P .084 DIA 11A		J1
450-269-00	PCB, SRS1500: AMP		Z4
500-026-00	THERMOSTAT 67F070 PCMNT	67F070	TH1
510-028-00	FUSE SB 10A 3AB 1/4X1-1/4	10A	F1-2
601-006-00	INDUCTOR AIR COIL 1UH	1uH 10%	L3
601-031-00	INDUCTOR CZECH 5UH 50A SP	5uH/50A	L1-2

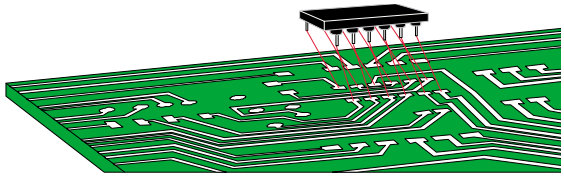
INPUT PCB ASSEMBLY 055-270-00 REV:A

PART NUMBER	DESCRIPTION	VALUE		REFERENCE DESIGNATORS
120-081-00	RES MO .5W 5% 2K2 OHM	2K2	5%	R72 R74
121-049-00	RES MO 1W 5% 10 OHM	10 OHM	5%	R96-97
130-037-02	POT RTY 10KC 9MM TN	10KC	.	R80
140-009-00	RES TF SM .1W 5% 2.2 OHM	2.2	5%	R65 R69
140-049-00	RES TF SM .1W 5% 100 OHM	100	5%	R28-29 R54-55 R71 R88
140-057-00	RES TF SM .1W 5% 220 OHM	220	5%	R23-24 R49 R53 R79
140-065-00	RES TF SM .1W 5% 470 OHM	470	5%	R89
140-073-00	RES TF SM .1W 5% 1K0 OHM	1K0	5%	R3-4 R36-37 R87
140-077-00	RES TF SM .1W 5% 1K5 OHM	1K5	5%	R94-95
140-081-00	RES TF SM .1W 5% 2K2 OHM	2K2	5%	R75 R85 R90
140-083-00	RES TF SM .1W 5% 2K7 OHM	2K7	5%	R83
140-089-00	RES TF SM .1W 5% 4K7 OHM	4K7	5%	R5 R19 R60-61 R64 R76
140-090-00	RES TF SM .1W 5% 5K1 OHM	5K1	5%	R70
140-091-00	RES TF SM .1W 5% 5K6 OHM	5K6	5%	R68
140-093-00	RES TF SM .1W 5% 6K8 OHM	6K8	5%	R12 R45
140-097-00	RES TF SM .1W 5% 10K OHM	10K	5%	R20 R26 R46 R51 R66-67 R73
140-101-00	RES TF SM .1W 5% 15K OHM	15K	5%	R11 R44
140-105-00	RES TF SM .1W 5% 22K OHM	22K	5%	R18 R77-78
140-114-00	RES TF SM .1W 5% 47K OHM	47K	5%	R1-2 R16-17 R30-35 R56-59 R93
140-123-00	RES TF SM .1W 5% 100K OHM	100K	5%	R14-15 R84 R86
140-131-00	RES TF SM .1W 5% 220K OHM	220K	5%	R63
140-135-00	RES TF SM .1W 5% 330K OHM	330K	5%	R92
145-266-00	RES MF SM .1W 1% 576 OHM	576	1%	R13 R91
145-326-00	RES MF SM .1W 1% 2K21 OHM	2K21	1%	R21-22 R25 R27 R47-48 R50 R52 R81-82
145-367-00	RES MF SM .1W 1% 5K90 OHM	5K90	1%	R9-10 R42-43
145-389-00	RES MF SM .1W 1% 10K0 OHM	10K0	1%	R7-8 R40-41
200-022-02	PLY .47UF 5% 50V TR	0.47	10%	C37
210-002-00	CER 100PF 10% 50V RAD	100PF	10%	C35
212-001-00	CER .01UF 10% 50V X7R SM	0.01	10%	C49
212-015-00	CER 33PF 5% 50V NPO SM	33PF	5%	C5-7 C23-25 C39
212-018-00	CER 10PF 5% 50V NPO SM	10PF	5%	C15-16 C28-29
212-020-00	CER 750PF 5% 50V NPO SM	750PF	5%	C3-4 C21-22
212-024-00	CER 1UF 25V Y5V 1206	1UF	+80/-20%	C1-2 C10-11 C19-20
212-025-00	CAP CER .1UF 50V 10% X7R	.1UF	10%	C45-48
220-001-02	LYT 22UF 20% 25V RAD TR	22UF	10%	C38 C43
220-002-02	LYT 47UF 20% 25V RAD TR	47UF	20%	C17-18 C30-31
220-011-02	LYT 100UF 20% 25V RAD	100UF	10%	C32 C34 C36 C40
220-012-02	LYT 4.7UF 20% 63V RAD TR	4.7UF	10%	C33
224-010-00	PLY .1UF 2% 50V SM	0.1	2.00%	C8-9 C12-13 C26-27 C42 C44
224-015-00	PLY .047UF 2% 50V SM	0.047	2.00%	C14 C41
300-003-00	DIO SW DL4148 100V SM	DL4148		D1-2 D5-6 D10 D12-14
302-002-03	DIO ZEN 1N5230B 4.7V SM	DL5230B		D16
302-013-03	DIO ZEN DL5242 12V SM	DL5242B		D3-4 D7-8
302-025-03	DIO ZEN DL5245B 15V SMT	DL5245B		D11
304-001-00	LED RED T-1	RED		D15
304-004-00	LED GREEN T-1	GRN		D9
310-005-02	TRANSISTOR JFET J112	J112		Q1-4 Q10
310-035-00	TRANSISTOR PNP	2SA1478		Q12
310-036-00	TRANSISTOR NPN	2SC3788		Q11
311-005-00	XSTR NPN MMBTA06 SMT	IMBTA06		Q5 Q7-8
311-006-00	XSTR PNP IMBTA56 SMT	IMBTA56		Q6 Q9
320-017-03	OPAMP NE5532 SMD	NE5532		U1-7
329-012-00	VTL5C10 OPTOCOUPLER	VTL5C10		U9
400-078-00	HDR 10P .1X2 STR LCK SHRD			J5
400-141-00	XLR 3P F VERT A-SERIES			J1 J3
400-142-00	XLR 3P M VERT A-SERIES			J2 J4 J6-7

PART NUMBER	DESCRIPTION	VALUE	REFERENCE DESIGNATORS
400-243-00	HDR 2P .098X1 SHRD		J8
410-004-00	INSL SILPAD TO-126		Z103-104
450-270-00	PCB, SRS1500: INPUT		Z100
500-024-00	SW SLIDE DPDT MINI		DPDT SW1
550-573-00	HEATSINK 270 PCB SRS1500		HS1
700-087-00	TF 4-40X5/8 TORX 1/4 WASH		Z101-102
706-095-00	SPCR PVC .905"" T1 LED		Z105-106

AC INPUT PCB ASSEMBLY 055-271-00 Rev.A

PART NUMBER	DESCRIPTION	VALUE		REFERENCE DESIGNATORS	
040-135-00	CBL ASSY 18GA 1010 GRN/YEL 9"	GRN/YEL		P1	
200-023-00	PLY/BX .001UF 20% 250V Y2	.001uF	20%	C1-2	
200-024-00	PLY/BX .01UF 20% 250V Y2	.01uF	20%	C3	
200-050-00	PLYBOX .47UF 20% 275V X2	.47	20%	C4-5	
400-060-00	FUSE CLIP PCMT 5MM DIA			Z2-3	
400-132-00	IEC MALE RTA PCMT			J1	
400-173-00	TERM .25 QKDS PCMT STABLE			J2-7	
450-271-00	PCB, SRS1500: AC INPUT			Z1	
712-020-00	BRKT ANG 6-32X.037THK STL			BK1	
712-021-01	RVT CL END .125X.062-.125			Z4-5	
510-045-00	10 AMP, SLO BLO, 5 x 20mm			F1	NOTE: Some early models have 7A fuses which should be replaced with 10A.



MACKIE.®

THE MACKIE FIXER • MACKIE DESIGNS SERVICE NEWS

SRS1500 active speaker modification

Models affected:

All SRS1500 120Volt and 100Volt active speakers. The 230Volt and 220Volt models are not affected. Add this as part of your normal repair procedures.

Symptom:

No power, no LED

Possible Cause:

Blown AC fuse

Solution:

Increase the fuse size from 7 amps to 10 amps, to overcome the possibility of the fuse blowing under certain turn-on and transient conditions.

Safety Warning:

Caution! These instructions are for use by qualified personnel only. To avoid electric shock, do not perform any servicing unless you are qualified to do so. Refer all service to qualified personnel.

Tools Required:

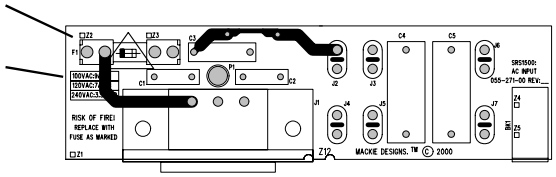
Phillips screwdriver.

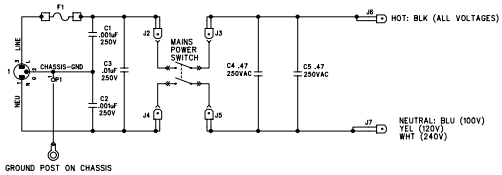
Parts Required:

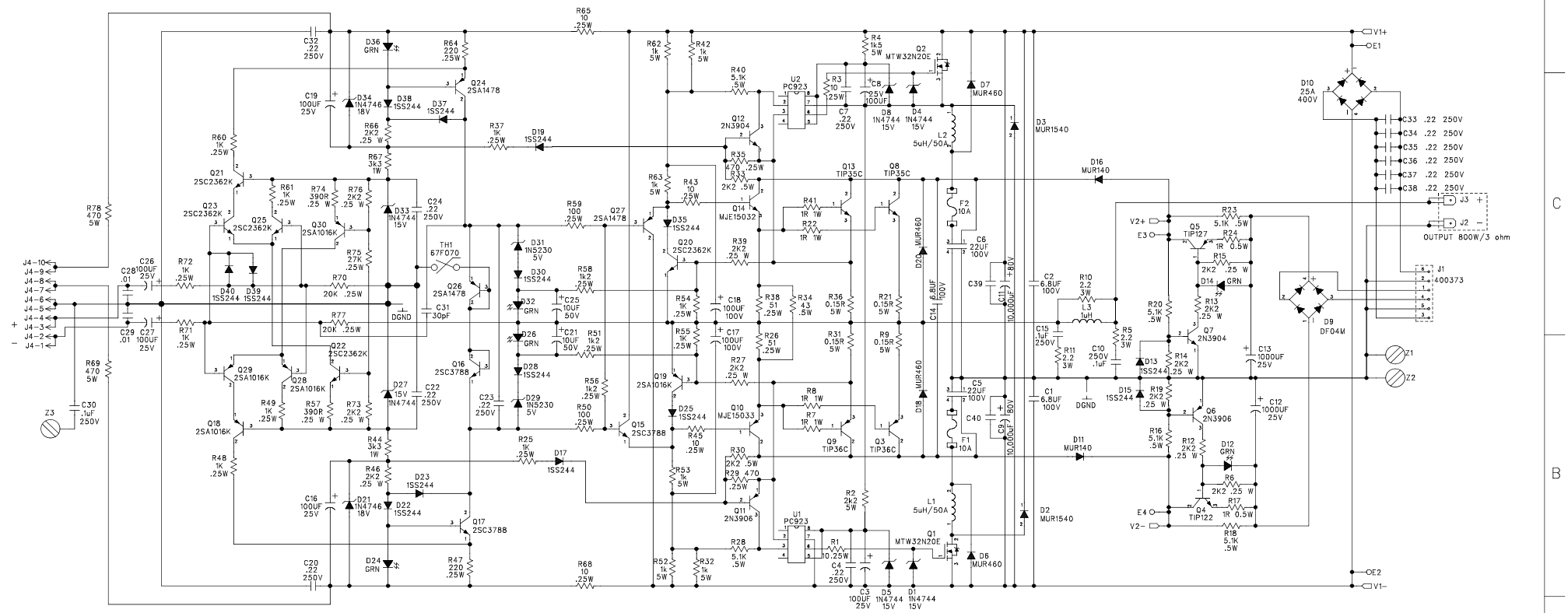
Fuse	510-045-00	10 Amp, Slo Blo, 5 x 20mm
Fuse label	840-430-00	

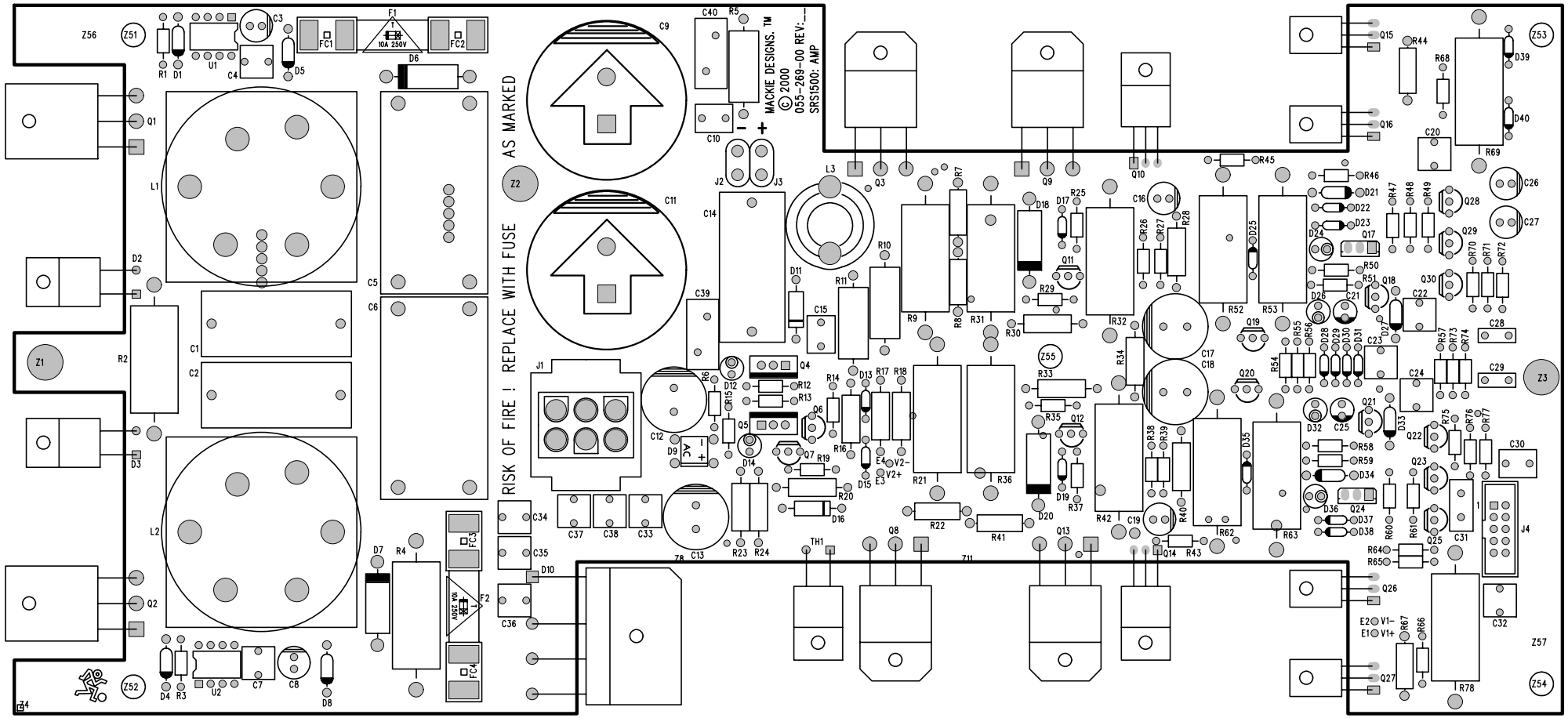
Procedure:

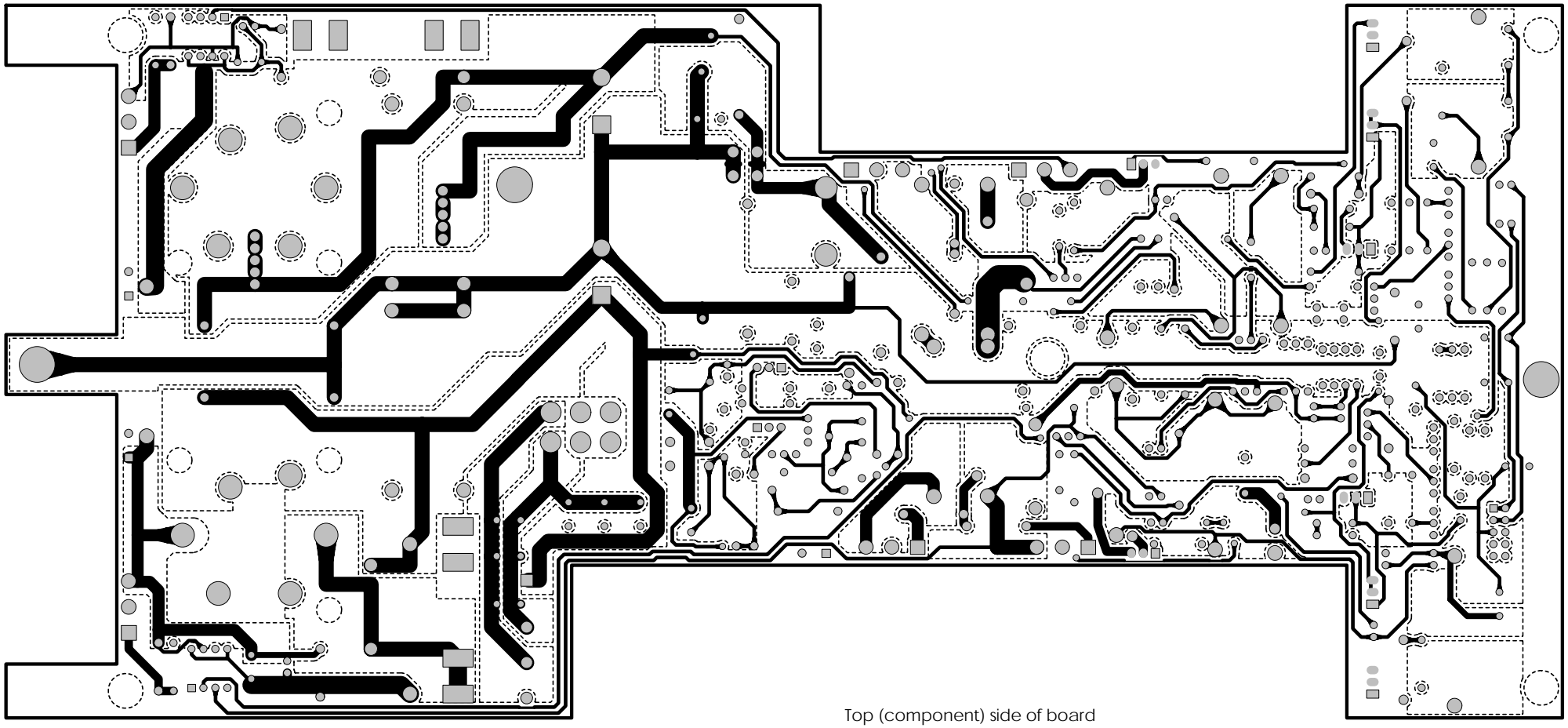
1. Remove all cords (including the power cable and input cable) from the speaker.
2. Lay the speaker on its front on a soft carpet or surface.
3. Take off the amplifier panel assembly by removing the two screws along the rear edge of the top of the speaker cabinet, and the two screws in the bottom. Take care to undo the LED wires and the speaker connector before removing the amplifier panel.
4. Locate the AC input board and replace the fuse F1 with the new 10A fuse.
5. Add the fuse label over the silkscreen markings next to the fuse.
6. Reconnect the speaker connector and the LED connector.
7. Secure the amplifier panel back into the cabinet.
8. Reconnect the power cord and turn on the speaker.
9. Perform a complete specification and safety test before returning the speaker to the customer.



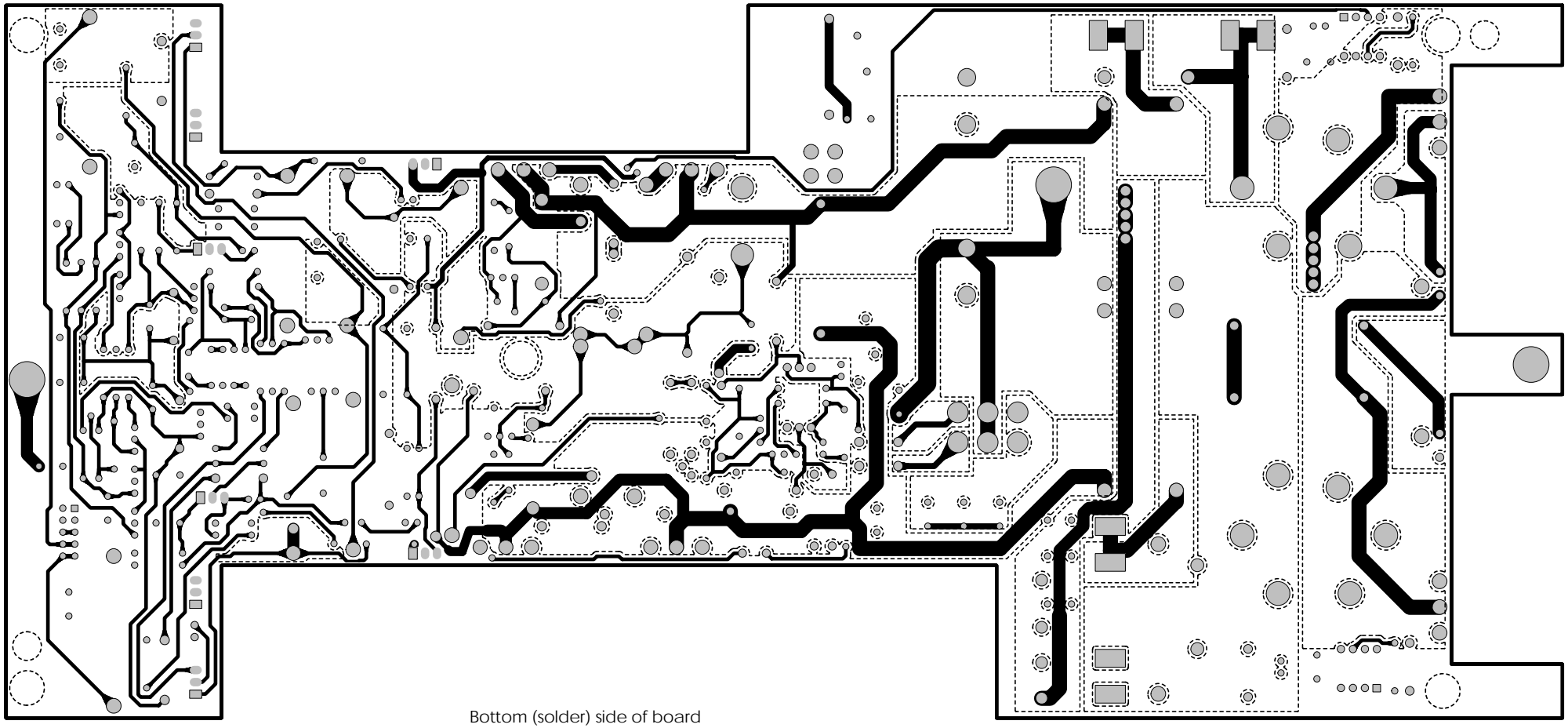



DWG. NO. 990-269-00 SHT 1 REV: A
ECO# REV: DESCRIPTION REV. BY: APP. BY: DATE
OUTPUT 800W/3 ohm
J1 400373
D9 DF04M
D10 25A 400V
MACKIE.
Mackie Designs Inc. Woodinville, Wa.
SCHEMATIC, SRS1500 AMP
SIZE D SCALE: NONE DWG. NO. 990-269-00 REV. A
DWG FILE: SHEET 1 OF 1
APPROVALS DATE
DRAWN: STOLTZ 12-28-99
CHECKED:
NP ENG:
MATERIAL:
MFG:
MFG ENG:
ISSUED:
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:
FRACTIONS: ±NA DECIMALS: .XX ±.01 .XXX ±.005 ANGLES: ±NA
MATERIAL: SEE NOTES
FINISH: SEE NOTES
DO NOT SCALE DRAWING
Z4 450-269-00 PCB, SRS1500: AMP
FC3 400-129-00 FUSE CLIP .25 DIA PC MNT
FC4 400-129-00 FUSE CLIP .25 DIA PC MNT
FC1 400-129-00 FUSE CLIP .25 DIA PC MNT
FC2 400-129-00 FUSE CLIP .25 DIA PC MNT

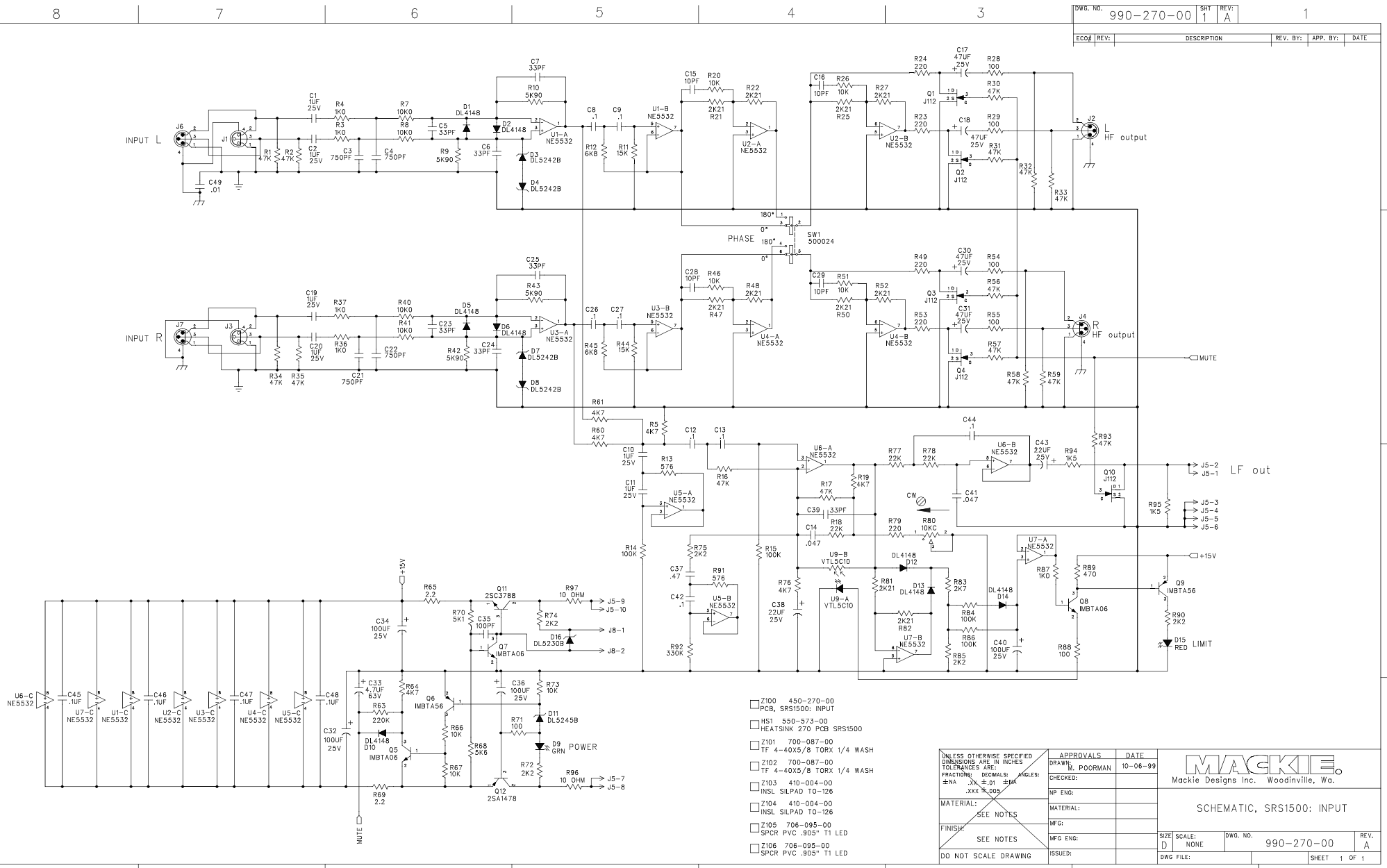

RISK OF FIRE ! REPLACE WITH FUSE AS MARKED
MACKIE DESIGNS. TM
© 2000
055-269-00 REV:_
SRS1500: AMP

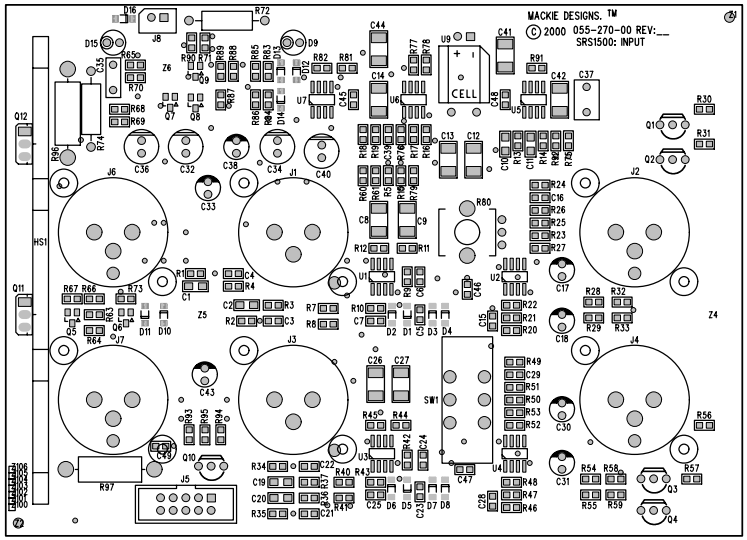


Top (component) side of board

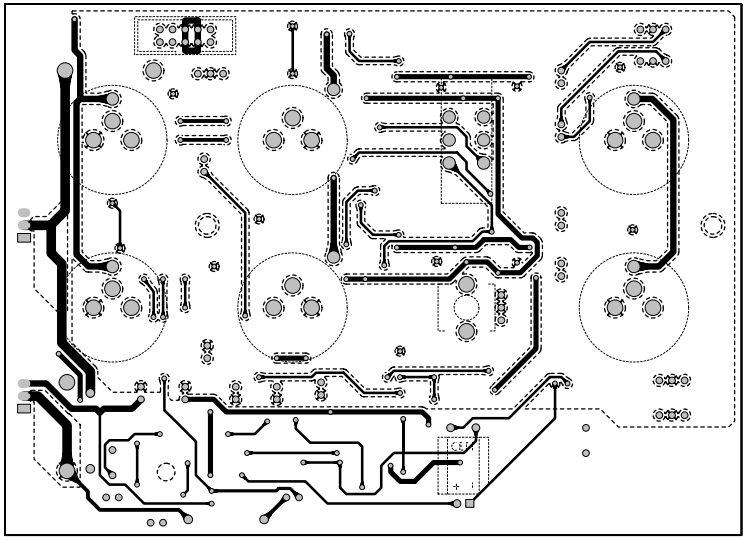


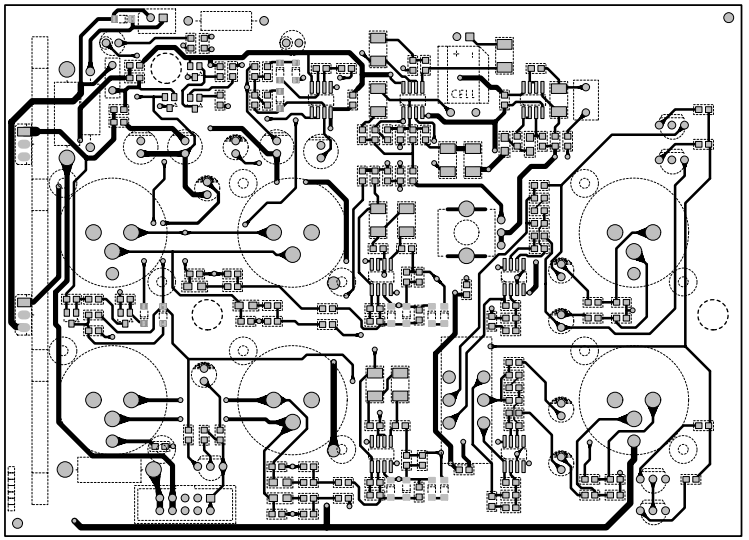
Bottom (solder) side of board


DWG. NO. 990-270-00 SHT 1 REV: A
ECO# REV: DESCRIPTION REV. BY: APP. BY: DATE
INPUT L
INPUT R
PHASE
SW1 500024
180°
0°
L HF output
R HF output
MUTE
LF out
J5-2
J5-1
J5-3
J5-4
J5-5
J5-6
+15V
POWER
LIMIT
J5-9
J5-10
J8-1
J8-2
J5-7
J5-8
Z100 450-270-00 PCB, SRS1500: INPUT
HS1 550-573-00 HEATSINK 270 PCB SRS1500
Z101 700-087-00 TF 4-40X5/8 TORX 1/4 WASH
Z102 700-087-00 TF 4-40X5/8 TORX 1/4 WASH
Z103 410-004-00 INSL SILPAD TO-126
Z104 410-004-00 INSL SILPAD TO-126
Z105 706-095-00 SPCR PVC .905" T1 LED
Z106 706-095-00 SPCR PVC .905" T1 LED
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS: DECIMALS: ANGLES: ±NA .XX ±.01 ±NA .XXX ±.005
MATERIAL: SEE NOTES
FINISH: SEE NOTES
DO NOT SCALE DRAWING
APPROVALS DATE
DRAWN: M. POORMAN 10-06-99
CHECKED:
NP ENG:
MATERIAL:
MFG:
MFG ENG:
ISSUED:
MACKIE.
Mackie Designs Inc. Woodinville, Wa.
SCHEMATIC, SRS1500: INPUT
SIZE D SCALE: NONE DWG. NO. 990-270-00 REV. A
DWG FILE:
SHEET 1 OF 1

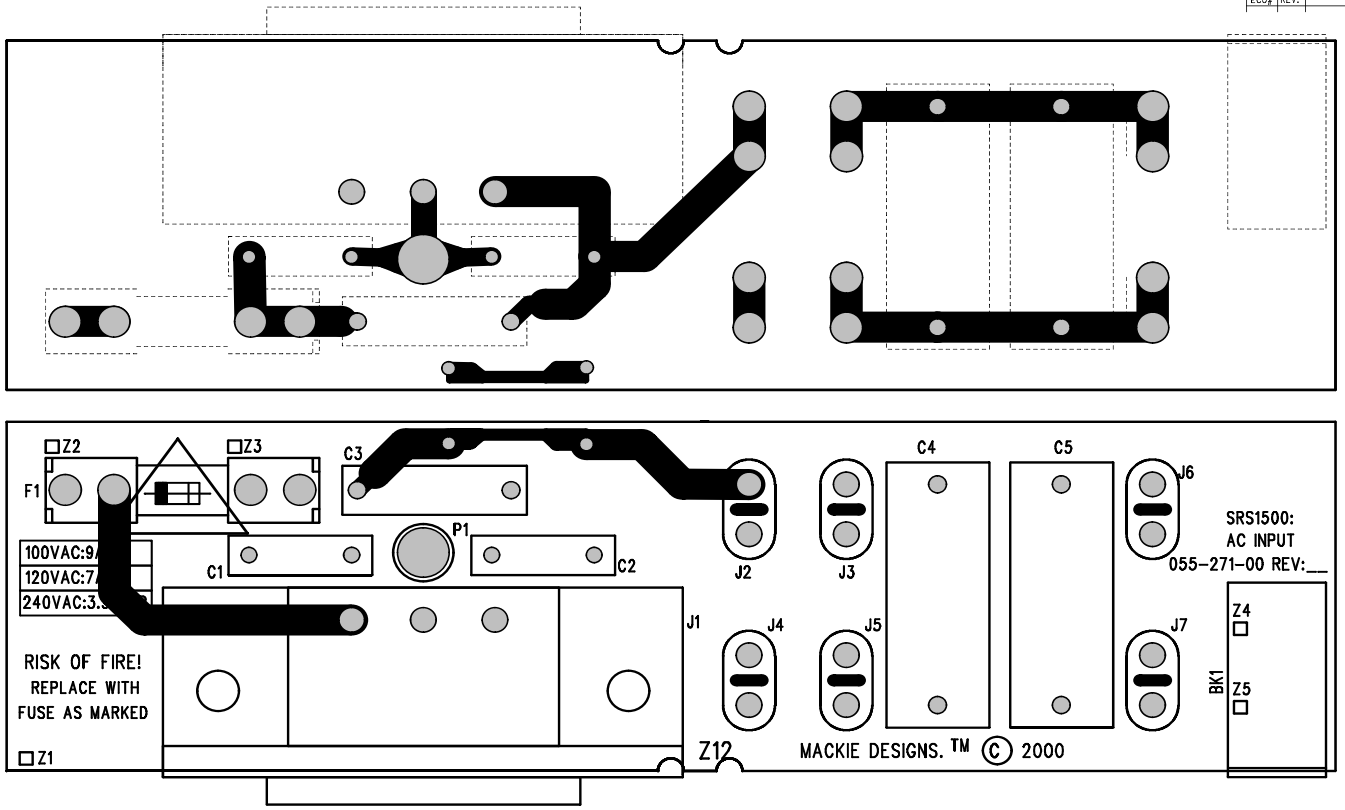


Bottom of board



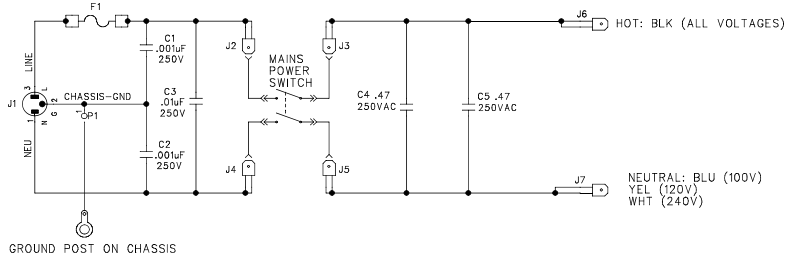


Top of board



FUSE VALUE CHART

MAINS	F1
100VAC	9A SB
120VAC	7A SB
240VAC	3.5A SB



DWG. NO.	SHT	REV:
990-271-00	1	A

ECO#	REV:	DESCRIPTION	REV. BY:	APP. BY:	DATE

APPROVALS	DATE
DRAWN: KR	6-10-99
CHECKED:	
NP ENG:	
MATERIAL:	
MFG:	
MFG ENG:	
ISSUED:	

MACKIE.
Mackie Designs Inc. Woodinville, Wa.

SCHEMATIC, SRS1500: AC INPUT

SIZE	SCALE:	DWG. NO.	REV.
D	NONE	990-271-00	A

DWG FILE: SHEET 1 OF 1

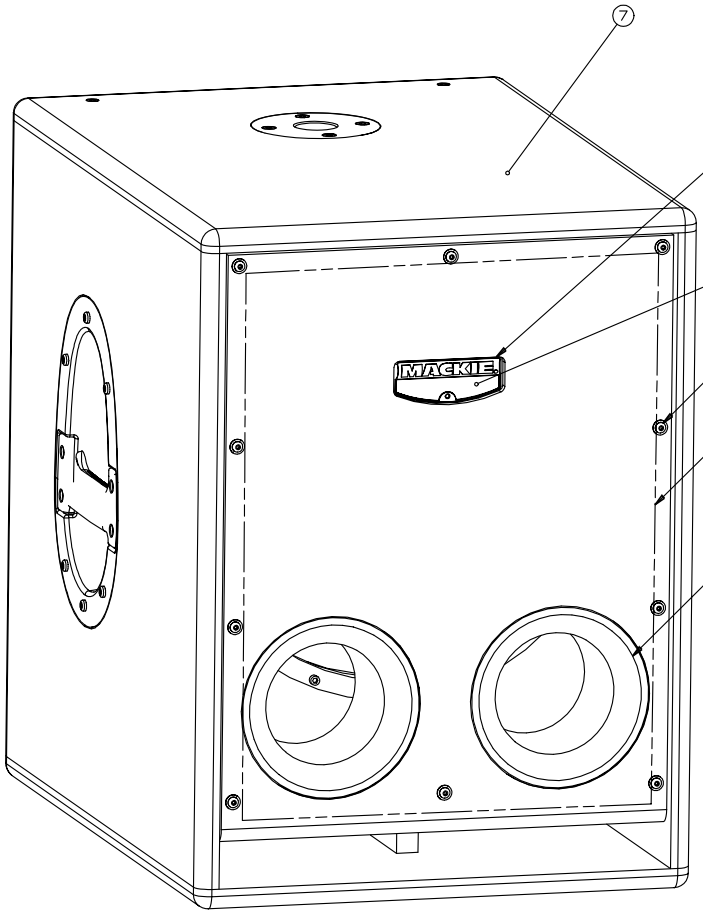
DWG. NO.	SHT	REV.
090-104-00	1	B

REVISIONS

ECO#	REV.	DESCRIPTION	REV. BY:	APP. BY:	DATE
	A	PRODUCTION RELEASE			
2701	B	CHANGE HANDLE SCREW AND ADD GASKETING NOTES.			

CABLE CONNECTIONS (NOT SHOWN)

ITEM	FROM REF DES	TO REF DES	
—	055-269-00 J2 BLK (ON 080-101-00 SUBASSY) J3 RED	SPEAKER BLK SPEAKER RED	1
—	055-270-00 J8 (ON 080-101-00 SUBASSY)	055-313-00 CONN	1



SCALE 0.500

NOTES; UNLESS OTHERWISE SPECIFIED

1. SEAL HOLES IN BULKHEADS FOR AIR LEAKS AFTER ROUTING WIRES.
2. NO SILICONE OR GASKETING MATERIAL TO BE VISIBLE FROM EXTERIOR OF FINISHED CABINET.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. ALL ANGLES ARE 90°. TOLERANCES ARE: FRACTIONS ± 1/ DECIMALS .XX± .XXX± ANGLES ±

DIMENSION AND TOLERANCES ARE IN ACCORDANCE WITH ASME Y14.5-1994

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DO NOT SCALE DRAWING

MATERIAL: ———

FINISH: ———

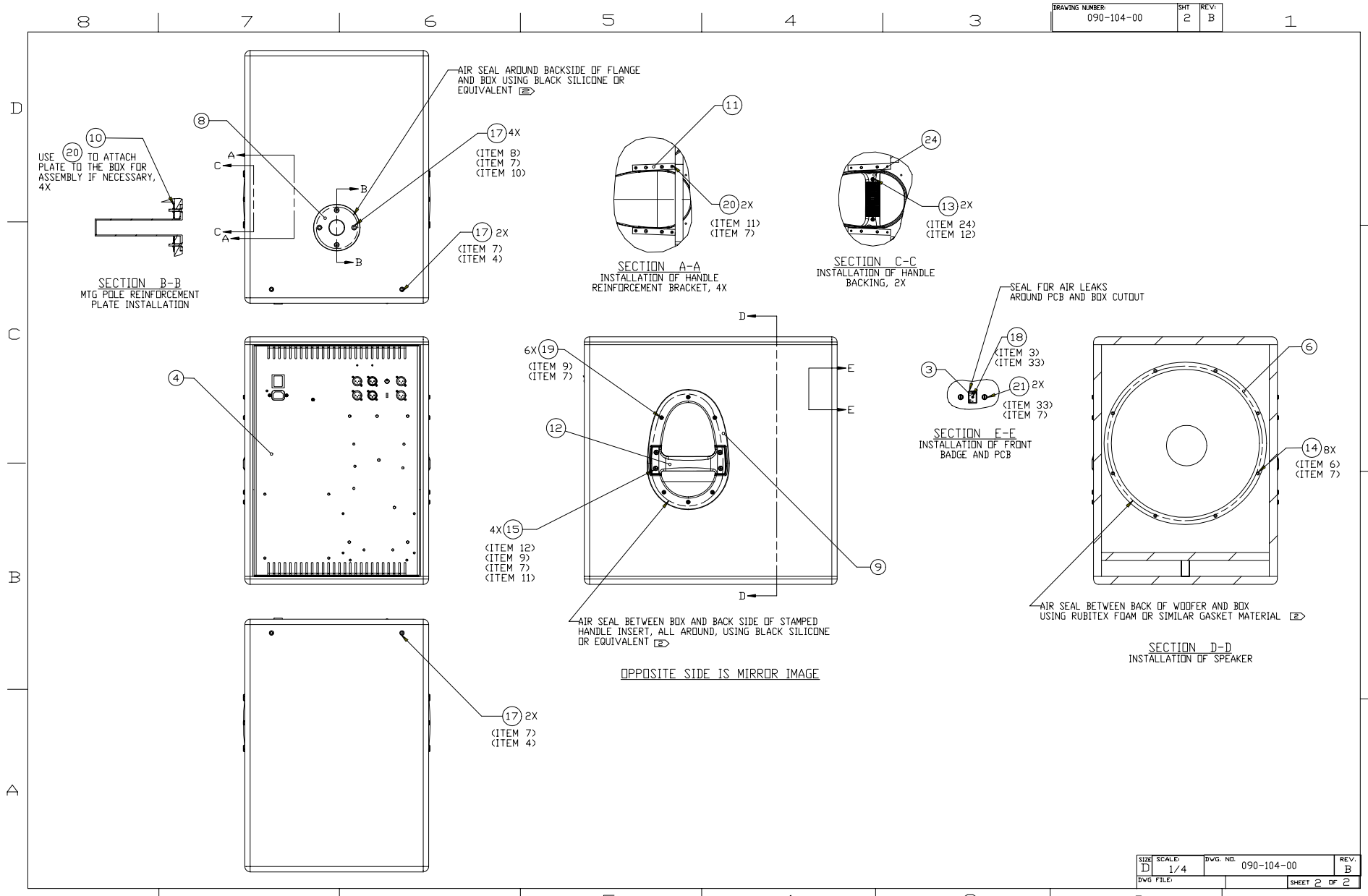
APPROVALS	DATE
DRAWN: JH	12.13.99
CHECKED:	
NP ENGINEERING: JEFF H.	3.7.00
MATERIAL: MIKE B.	3.9.00
MANUFACTURING:	
MFG ENGINEERING: MIKE G.	3.8.00
ISSUED: PATTI C	3.9.00

MACKIE.™ Mackie Designs Inc. Woodinville, Wa

FINAL ASSY, SRS1500

SIZE	SCALE:	DWG. NO.	REV.
D	1/4	090-104-00	B

DWG FILE: 090-104-00 SHEET 1 OF 2



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DWG. NO.	SHT	REV.
080-101-00	1	A

REVISIONS

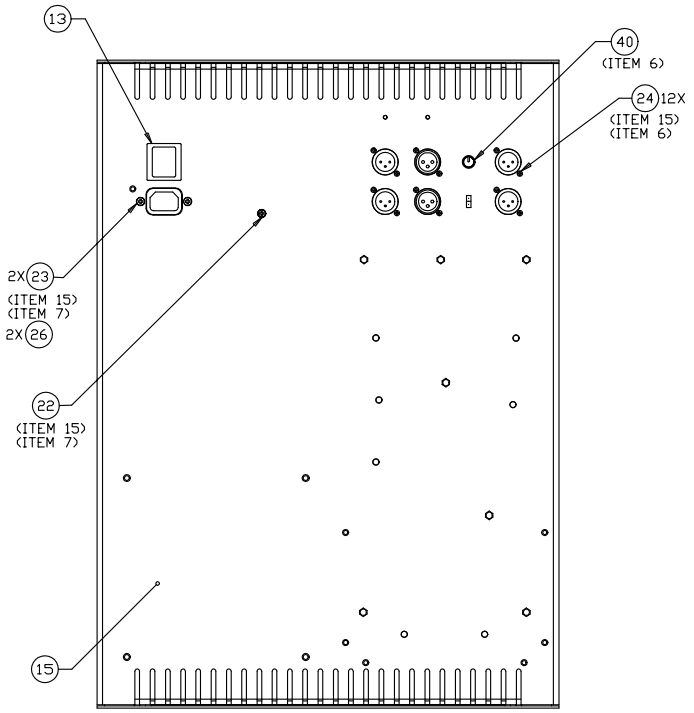
ECO#	REV.	DESCRIPTION	REV. BY	APP. BY	DATE
	A	PRODUCTION RELEASE			

CABLE CONNECTIONS (NOT SHOWN)

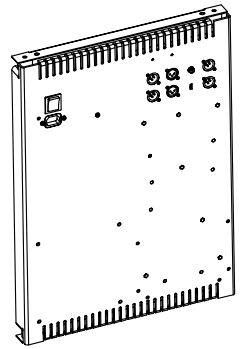
ITEM	FROM REF DES	TO REF DES
1	055-271-00 J2	PWR SWITCH WHT
2	055-271-00 J4	PWR SWITCH BLK
1	055-271-00 J3	PWR SWITCH WHT
2	055-271-00 J5	PWR SWITCH BLK
—	055-271-00 P1	CHASSIS GND
3	055-270-00 J8	(FINAL ASSY-LEDS)
4	055-269-00 J4	055-270-00 J5
—	080-155-00 8pin	055-269-00 J1
—	080-155-00 WHT	055-271-00 J6
—	080-155-00 BLK	055-271-00 J7
47	055-269-00 J2 - BLK, J3 + RED	(FINAL ASSY-SPKR)

SAME COLOR WIRES ARE INTERCHANGEABLE. SEE SH2 FOR COLOR TERMINATION LUGS ON SWITCH

SECURE FERRITE BEAD PER MFG INSTR.



SCALE 0.500



SCALE 0.250

NOTES, UNLESS OTHERWISE SPECIFIED

1. COAT BOTH SIDES OF INSULATOR USING (43).
2. COAT BOTTOM SIDE OF HEATSINK USING (43).
3. USE (38) TO SECURE WIRING PER MANUFACTURING INSTRUCTIONS.
4. USE (45) TO LOCK ITEM 4 INTO PCB CONNECTOR.
5. USE (46) TO LOCK NUT TO THREADS.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
ALL ANGLES ARE 90°
TOLERANCES ARE:
FRACTIONS ± / DECIMALS .XX ± .XXX ± ANGLES ±

DIMENSION AND TOLERANCES ARE IN ACCORDANCE WITH ASME Y14.5-1994

THE INFORMATION CONTAINED HEREIN IS PROPRIETARY AND CONFIDENTIAL PROPERTY OF MACKIE DESIGNS INC.

DO NOT SCALE DRAWING

MATERIAL:

FINISH:

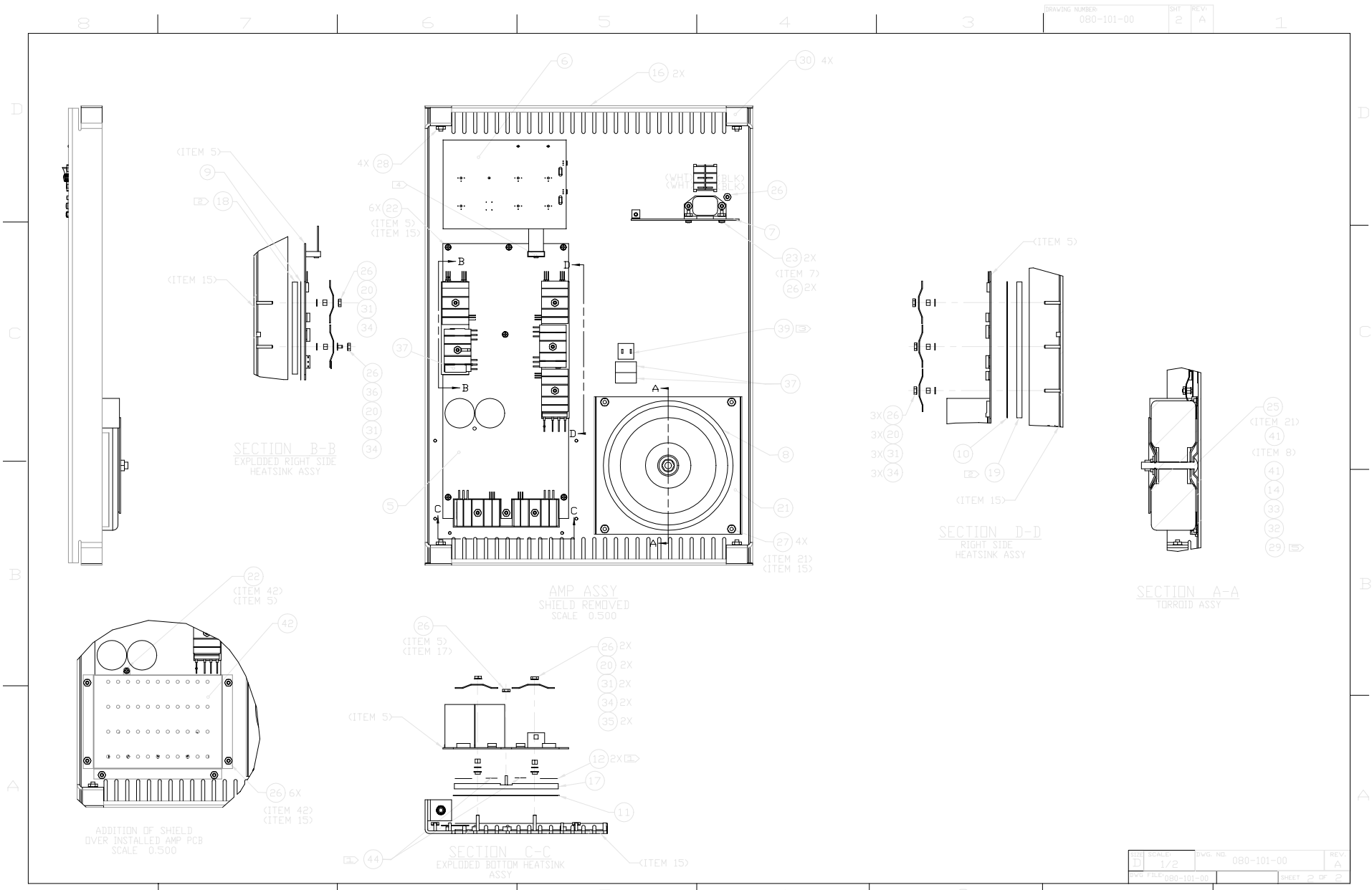
APPROVALS	DATE
DRAWN: JH	3.7.00
CHECKED:	
NP ENGINEERING:	
MATERIAL:	
MANUFACTURING:	
MFG ENGINEERING:	
ISSUED:	

MACKIE.™ Mackie Designs Inc. Woodinville, Wa

SUBASSEMBLY, AMPLIFIER, SRS1500

SIZE	SCALE:	DWG. NO.	REV.
D	1/2	080-101-00	A

DWG FILE: 080-101-00 SHEET 1 OF 2


SECTION B-B
EXPLODED RIGHT SIDE HEATSINK ASSY
AMP ASSY
SHIELD REMOVED
SCALE 0.500
SECTION D-D
RIGHT SIDE HEATSINK ASSY
SECTION A-A
TORROID ASSY
ADDITION OF SHIELD OVER INSTALLED AMP PCB
SCALE 0.500
SECTION C-C
EXPLODED BOTTOM HEATSINK ASSY

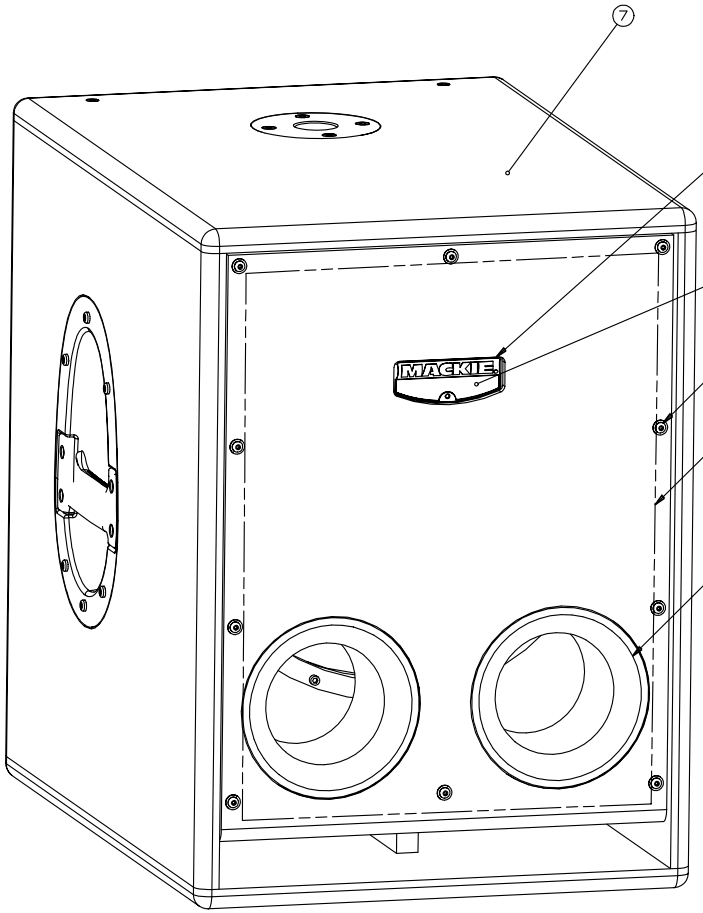
DWG. NO.	SHT	REV.
090-104-00	1	B

REVISIONS

ECO#	REV.	DESCRIPTION	REV. BY:	APP. BY:	DATE
	A	PRODUCTION RELEASE			
2701	B	CHANGE HANDLE SCREW AND ADD GASKETING NOTES.			

CABLE CONNECTIONS (NOT SHOWN)

ITEM	FROM REF DES	TO REF DES	
—	055-269-00 J2 BLK (ON 080-101-00 SUBASSY) J3 RED	SPEAKER BLK SPEAKER RED	1
—	055-270-00 J8 (ON 080-101-00 SUBASSY)	055-313-00 CONN	1



SCALE 0.500

NOTES; UNLESS OTHERWISE SPECIFIED

1. SEAL HOLES IN BULKHEADS FOR AIR LEAKS AFTER ROUTING WIRES.
2. NO SILICONE OR GASKETING MATERIAL TO BE VISIBLE FROM EXTERIOR OF FINISHED CABINET.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ALL ANGLES ARE 90° TOLERANCES ARE: FRACTIONS ± / DECIMALS .XX± .XXX± ANGLES ±

DIMENSION AND TOLERANCES ARE IN ACCORDANCE WITH ASME Y14.5-1994

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DO NOT SCALE DRAWING

MATERIAL: ———

FINISH: ———

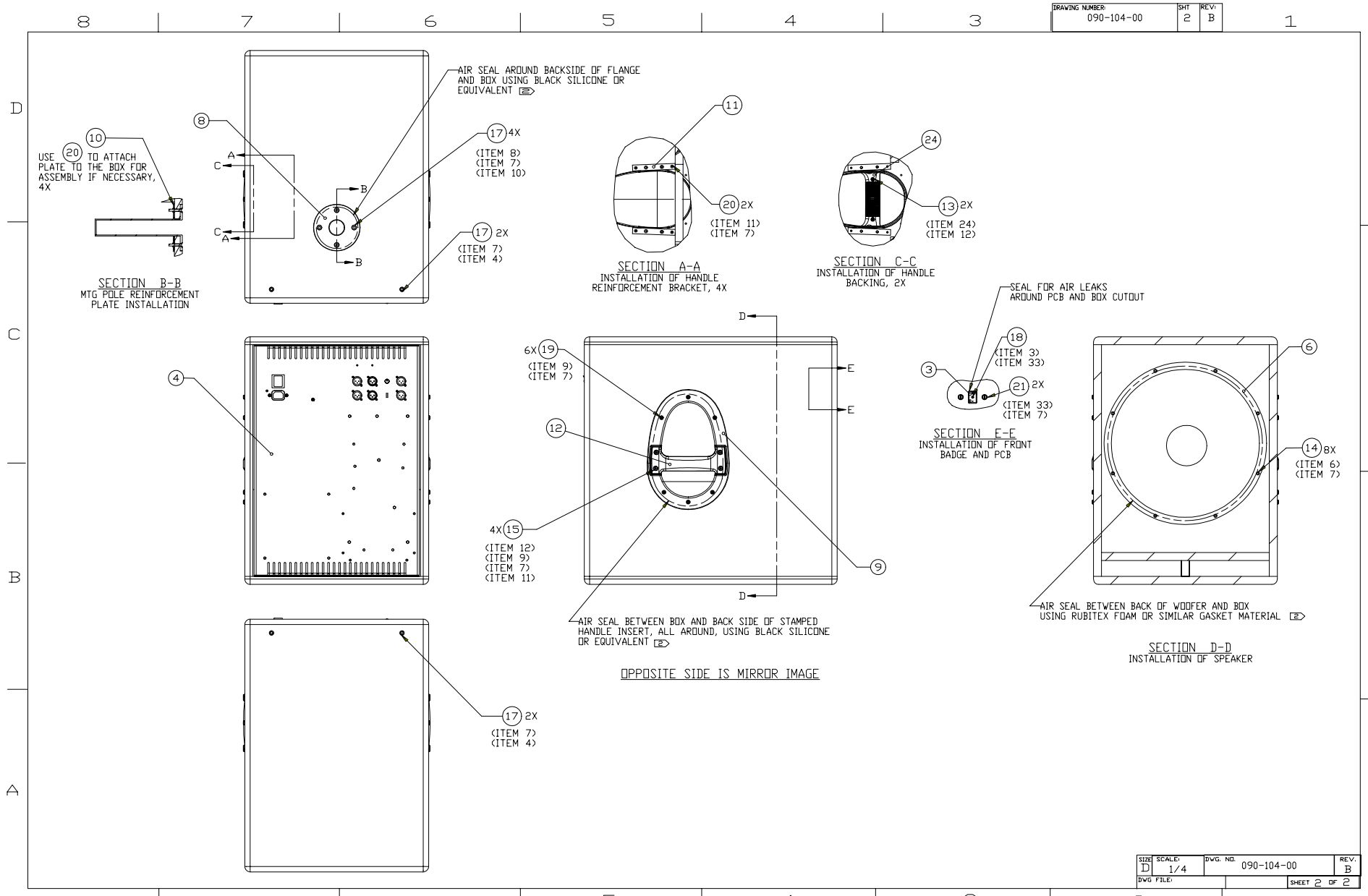
APPROVALS	DATE
DRAWN: JH	12.13.99
CHECKED:	
NP ENGINEERING: JEFF H.	3.7.00
MATERIAL: MIKE B.	3.9.00
MANUFACTURING:	
MFG ENGINEERING: MIKE G.	3.8.00
ISSUED: PATTI C	3.9.00

MACKIE.™ Mackie Designs Inc. Woodinville, Wa

FINAL ASSY, SRS1500

SIZE	SCALE:	DWG. NO.	REV.
D	1/4	090-104-00	B

DWG FILE: 090-104-00 SHEET 1 OF 2



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DWG. NO.	SHT	REV.
080-101-00	1	A

REVISIONS

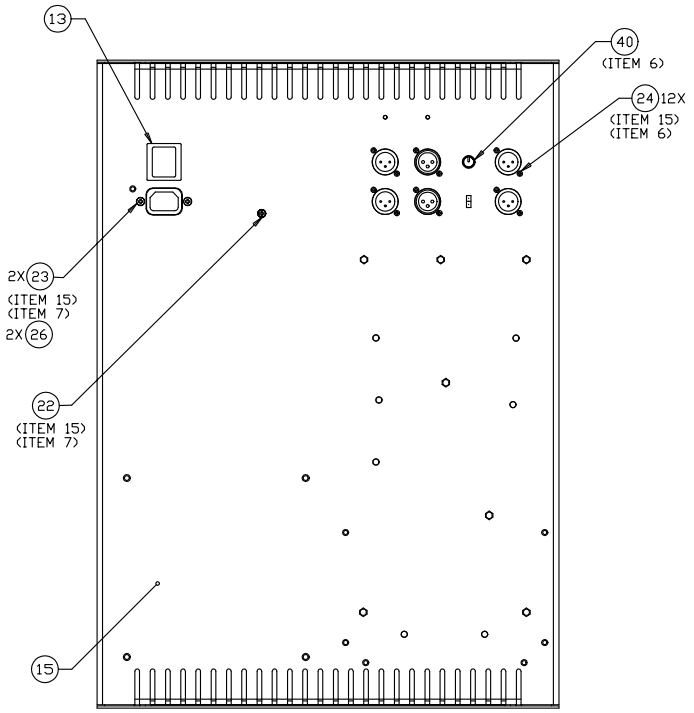
ECO#	REV.	DESCRIPTION	REV. BY	APP. BY	DATE
	A	PRODUCTION RELEASE			

CABLE CONNECTIONS (NOT SHOWN)

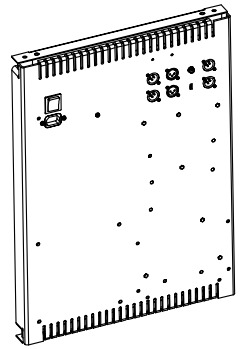
ITEM	FROM REF DES	TO REF DES
1	055-271-00 J2	PWR SWITCH WHT
2	055-271-00 J4	PWR SWITCH BLK
1	055-271-00 J3	PWR SWITCH WHT
2	055-271-00 J5	PWR SWITCH BLK
—	055-271-00 P1	CHASSIS GND
3	055-270-00 J8	(FINAL ASSY-LEDS)
4	055-269-00 J4	055-270-00 J5
—	080-155-00 8pin	055-269-00 J1
—	080-155-00 WHT	055-271-00 J6
—	080-155-00 BLK	055-271-00 J7
47	055-269-00 J2 - BLK, J3 + RED	(FINAL ASSY-SPKR)

SAME COLOR WIRES ARE INTERCHANGEABLE. SEE SH2 FOR COLOR TERMINATION LUGS ON SWITCH

SECURE FERRITE BEAD PER MFG INSTR.



SCALE 0.500



SCALE 0.250

NOTES, UNLESS OTHERWISE SPECIFIED

1. COAT BOTH SIDES OF INSULATOR USING (43).
2. COAT BOTTOM SIDE OF HEATSINK USING (43).
3. USE (38) TO SECURE WIRING PER MANUFACTURING INSTRUCTIONS.
4. USE (45) TO LOCK ITEM 4 INTO PCB CONNECTOR.
5. USE (46) TO LOCK NUT TO THREADS.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
ALL ANGLES ARE 90°
TOLERANCES ARE:
FRACTIONS ± / DECIMALS .XX ± .XXX ± ANGLES ±

DIMENSION AND TOLERANCES ARE IN ACCORDANCE WITH ASME Y14.5-1994

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DO NOT SCALE DRAWING

MATERIAL:

FINISH:

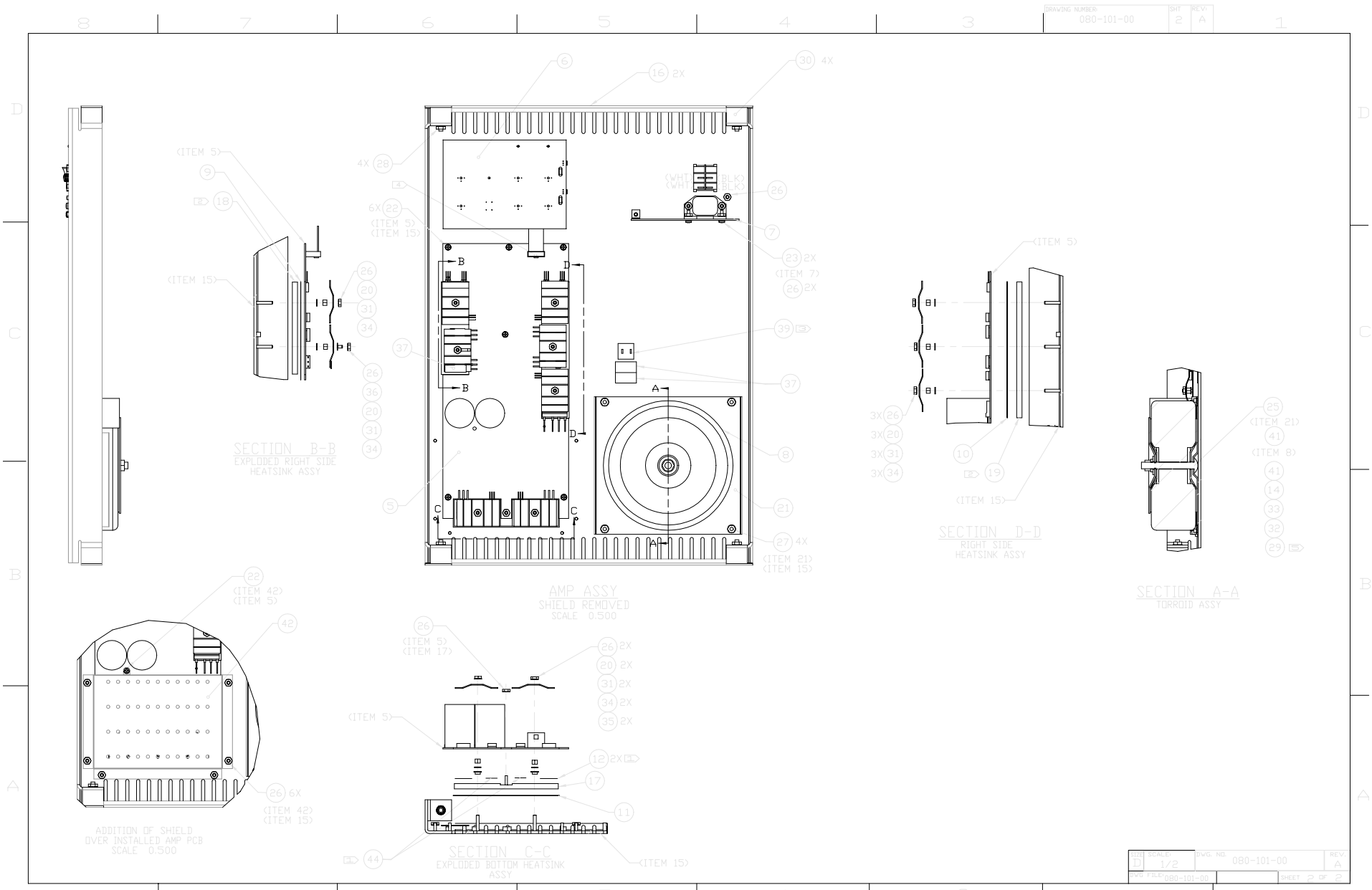
APPROVALS	DATE
DRAWN: JH	3.7.00
CHECKED:	
NP ENGINEERING:	
MATERIAL:	
MANUFACTURING:	
MFG ENGINEERING:	
ISSUED:	

MACKIE.™ Mackie Designs Inc. Woodinville, Wa

SUBASSEMBLY, AMPLIFIER, SRS1500

SIZE	SCALE:	DWG. NO.	REV.
D	1/2	080-101-00	A

DWG FILE: 080-101-00 SHEET 1 OF 2


SECTION B-B
EXPLODED RIGHT SIDE HEATSINK ASSY
AMP ASSY
SHIELD REMOVED
SCALE 0.500
SECTION D-D
RIGHT SIDE HEATSINK ASSY
SECTION A-A
TORROID ASSY
ADDITION OF SHIELD OVER INSTALLED AMP PCB
SCALE 0.500
SECTION C-C
EXPLODED BOTTOM HEATSINK ASSY